

## **REMARKS**

In the second final Office Action, the Examiner withdrew the finality of the previous action and entered a new rejection, rejected the claims 1 and 19 as anticipated under section 102(e) over Jiang et al., rejected claims 1 – 25 as anticipated by Parker et al., rejected claims 16 and 20 as obvious over Jiang et al.

### **Premature Final**

The Examiner has prematurely entered a final rejection in the present application. In particular, the Examiner in the previous action relied on no prior art and rejected the claims only based on an informality. The informality was that a line of text was inadvertently dropped from claim 1. From an examination of the prosecution file, it would have been readily apparent that this was an inadvertent omission and that no such amendment of claim 1 was intended. Indeed, this was such a minor change that it is commonly handled by a telephone call between the Examiner and Applicant's attorney for resolution by an Examiner's amendment.

In response to the final office action requiring correction of this obvious omission, Applicants re-inserted the missing text and thereby overcame the single issue in the action.

In the present action, the Examiner asserts that the Applicant's amendment necessitated new grounds of rejection and relies on two prior art references not previously relied upon by the Examiner. These references were before the Examiner previously and, as indicated by the initialed 1449 forms, were considered by the Examiner in November 2002. As such, the new rejection is not based on newly discovered art.

Further, in view of the simple re-insertion of obviously omitted text into claims not rejected over the art, the amendment did not, contrary to the Examiner's assertion, necessitate a new grounds of rejection. Accordingly, the present action has prematurely been made final. Withdrawal of the finality of the present action is hereby respectfully requested.

### **Petition for Refund of RCE Fee**

The present amendment is being filed with a Request for Continued Examination (RCE) to ensure entry and consideration of the foregoing claim change. However, if the office action had not been made final, Applicants would have been entitled to entry and consideration of the claim amendment without incurring the cost of the RCE fee. As shown

above, the finality of the August 11, 2003, action is premature and inappropriate at the present stage of prosecution. Thus, Applicants submit that the RCE fee was incurred only due to the improper final action and earnestly requests a full refund of the \$770.00 fee accompanying the RCE.

Accordingly, Applicants respectfully petition for refund of the \$770.00 RCE filing fee. The fee may be refunded to Applicants' attorney's Deposit Account No. 501519.

### **35 USC §102(e)**

The **Jiang et al. reference (WO 01/33678 A1)** was published on May 10, 2001. The present application was filed on April 2, 2001, before the publication date of the reference. Thus, it does not have prior publication.

The Examiner cites Jiang under §102(e), wherein an international application shall have the effect of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) in the English language. The Jiang reference (WO 01/33678 A1) does not list the US as a designated country, as such this publication is not prior art under §102(e).

Not cited by the Examiner, but mentioned here for the sake of completeness, is the corresponding **U.S. Patent No. 6,424,669 B1 to Jiang et al.** The Jiang US patent is related to VCSELs only. A VCSEL (Vertical Cavity Surface Emitting Laser) has by definition an internal resonator. This means that the laser device described has an active layer which is disposed between two mirrored layers of the semiconductor body. The two mirrors form an internal resonator.

By contrast, the present invention, as noted in the above amended claims, has an external resonator. This is supported by the disclosure as filed, for example, in Figure 13, and paragraphs 0066, 0119 and 0132 of the published application. As such, the subject matter of claim 1 is not disclosed in the Jiang US Patent and is not anticipated thereby.

The **Parker et al.** reference also relates only to a VCSEL that has an internal resonator. The claimed invention provides for an external resonator, so the claims are not anticipated by Parker et al.

### 35 USC §103(a)

The **Jiang et al. reference** does not suggest the use of an external resonator and so the claimed invention is not obvious over the cited art.

It must be noted that the designs of a VCSEL and a laser diode with an external resonator are fundamentally different. Typically, the optical power of a laser diode with an external resonator exceeds the power of the VCSEL by several orders of magnitude. In the case of the present invention, the frequency of the radiation generated by an embodiment of the laser can, for example, be converted to a higher frequency by a frequency doubler. It is well known that non-linear processes like frequency conversion require radiation fields with a very high intensity. Usually, it is not possible to generate this radiation with a VCSEL. Therefore, the structures shown in the prior art are not suited to forming a laser diode with an external resonator.

The devices such as those shown in Jiang and Parker are designed for communications applications such as optical networks. A very important feature of these devices is the possibility of an integrated manufacturing process resulting in small and compact integrated devices. An external resonator would lead to an increase in size and higher costs for the production of the devices, without offering further advantages in the communication system. As such, the person of ordinary skill in the art would not seek to modify the Jiang and Parker references by the addition of an external resonator.

Further, the power of the IPLs pumping the VCSEL would not be sufficient to pump an external resonator having typically higher losses than an internal resonator. Thus, the person of ordinary skill would be further discouraged from making the change of an additional resonator.

Therefore, the present invention as defined in the claims is a non-obvious improvement over the cited art.

**Conclusion**

Each issue in the action has been addressed and the application is in form for allowance. Early favorable consideration of the present application is hereby requested.

Further, favorable consideration of the petition for refund of the RCE fee is hereby requested.

Respectfully submitted,



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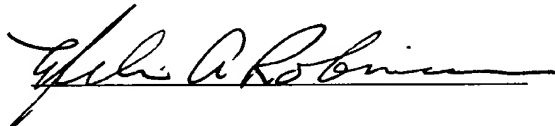
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